



# Bewaterwise

Water is essential to life. Every day, we use it for drinking, bathing, cleaning, cooking and gardening. It is vital for many industries, a key ingredient for agriculture, and an essential element in many of our leisure activities.

If you live in Auckland, you enjoy high-quality water provided by Watercare. We also collect your wastewater, treat it and dispose of it safely in order to protect our region's beaches and harbours. We care for the environment and, with your help, we will continue to ensure the best use of our precious water resources.

There are many benefits to using water wisely. It's good for the environment and your wallet. Not only that, many people gain a sense of satisfaction from living a sustainable lifestyle. This booklet provides a wide range of tips and ideas to help you save water in the home and outdoors.





# Saving water in your home

## How is water used in the home?

Your Watercare bill allows you to see how much water your household uses and how this compares with households of a similar size. How waterwise are you? Take the challenge to reduce your water use to put less pressure on the environment and your wallet!

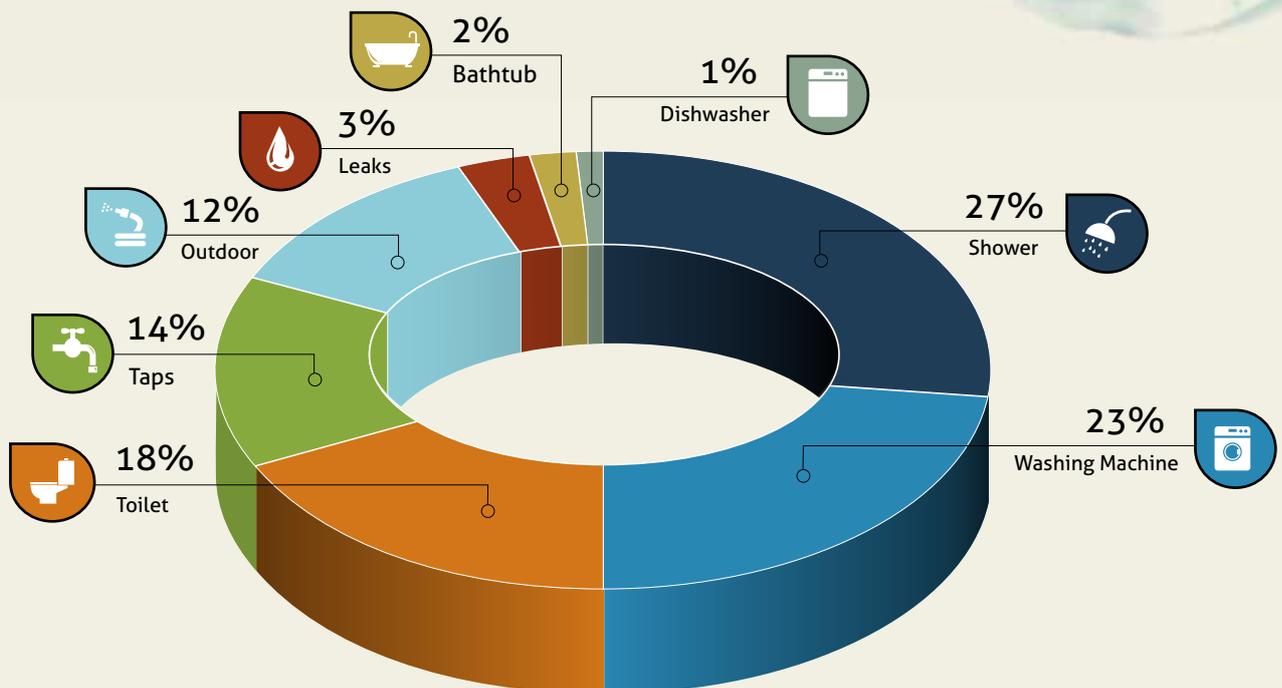
A study on water use in Auckland found that people typically use between 140 and 175 litres of water a day. The diagram below shows how water is usually consumed in the home.

## How can Watercare help you?

Watercare provides a free water advice and audit service to households in Auckland in partnership with EcoMatters Environment Trust. Contact us on (09) 442 2222 or [info@water.co.nz](mailto:info@water.co.nz) to sign up.

## How can Auckland Council help you?

Auckland Council's Retrofit Your Home programme helps you pay for sustainable features in your home. It now includes water efficiency appliances and rainwater tanks. Search "Retrofit Your Home" on <http://www.aucklandcouncil.govt.nz>, call 09 301 0101 or email [retrofit@aucklandcouncil.govt.nz](mailto:retrofit@aucklandcouncil.govt.nz) for more information.





*Tip: Get the plumber involved early on when selecting your systems and fixtures. If possible, ask your plumber to design the entire system (with you and your architect) to ensure it is as efficient as possible.*

## Building water efficiency into a new home

When designing a new home or preparing to renovate, it's worth talking to your plumber about installing a water-efficient plumbing system. It is the perfect opportunity to become more water efficient!

Renovation and building works are also the best time to think about rainwater collection and greywater recycling.

Considering the following when selecting your plumbing and fittings can save you money in the long run:

- **Hot water cylinder:**

The location of the hot water cylinder is important. By minimising the distance between the cylinder and where the hot water is used, less water (and time) is wasted waiting for the water to reach the desired temperature.

- **Pressure:**

Although mains pressure is now more common in new homes, low pressure systems are cheaper to run as they use less water. If the pressure coming into your pipes is really high, you could ask your plumber to investigate the possibility of installing a pressure limiting valve or flow restrictors in your system.

- **Water efficient fittings:**

Your plumber can also help you to select water-saving fittings such as low-flow showerheads. Most water-saving fittings are a similar price to ordinary fittings of a similar quality.



# Assessing your current situation: Pressure, flow rate and leaks

Pressure and flow rate are the two key settings of your plumbing system. They will greatly impact your water use and so understanding pressure and flow rate is important.

Once you have determined the pressure and flow rate in your house, you can consider installing flow restrictors on your taps and shower head. Flow restrictors limit the amount of water that is let out of the tap or shower, and so you can reduce the amount of water you need for things such as showering or washing the dishes. Your local hardware store should have a variety of flow restrictors for you to choose from.

## Measure your flow rate

The flow rate is the amount of water flowing from your shower or tap. Measuring the flow rate is simple and takes just a few minutes.

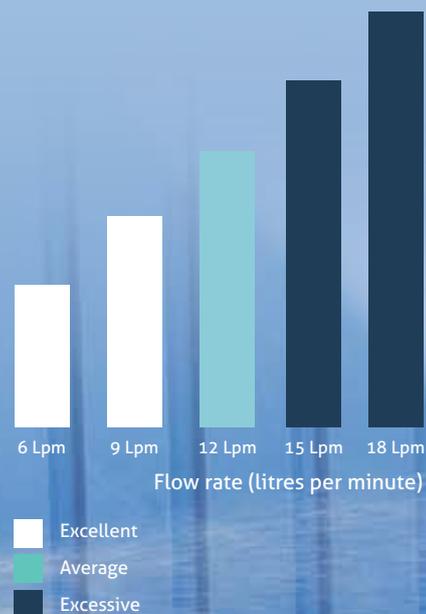
### You will need:

- A bucket or large jug with measurements
- A stopwatch (if you don't have a stopwatch, you can count off 10 seconds)

### Steps:

- Turn the shower or tap on to its normal setting and let it flow into the bucket for 10 seconds
- Measure the amount of water in the bucket and multiply it by six
- Use the chart below to check whether your shower or tap's flow rate is excellent, average or excessive

If all your showers and taps have an excessive flow rate, you may want to discuss solutions with your plumber rather than putting flow restrictors on all of your appliances.





## Find out whether you are on mains or low pressure

Pressure is the force that pushes water through the pipes. Before you install any flow restricting devices or low-flow showerheads, it is important to know whether your hot water cylinder has mains (equal) water pressure or low (unequal) water pressure.

Some flow-restricting devices and low-flow showerheads are not compatible with hot water cylinders with low (unequal) water pressure. We advise you to talk to your plumber and to strictly follow manufacturers' instructions.

Most hot water cylinders will say on them whether they are a mains (or equal) water pressure or a low (unequal) water pressure cylinder. If you are unsure of the pressure of your hot water cylinder, here are two indicators of a low-pressure cylinder:

- Your shower temperature and/or pressure changes when someone uses hot water elsewhere in the house
- Your cold water tap runs faster than your hot water tap

Other types of hot water systems include instantaneous/continuous gas and electric where there is no storage of hot water. These systems are usually compatible with water saving devices but we advise you to consult with your plumber and to strictly follow manufacturers' instructions.

## Check for leaks

A leak at your property can waste thousands of litres of water, at considerable cost to you. A dripping tap can waste up to 33 litres each day!

Checking for a water leak is easy if you follow these four steps:

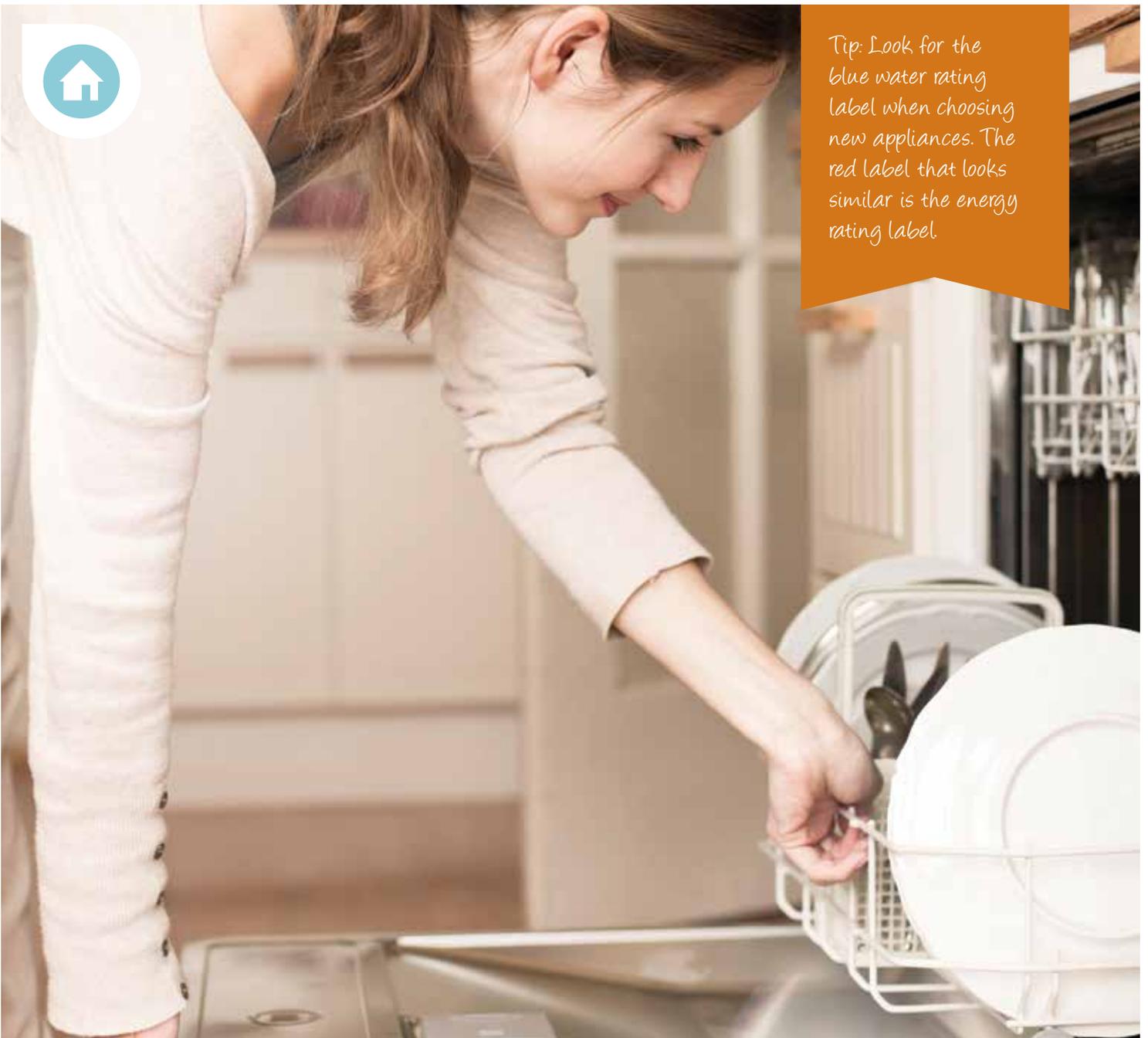
1. Make sure you are not using any water. It is best to check for a leak overnight when no water is being used
2. Take a note of the reading on your meter
3. Wait for at least two hours (or overnight, if possible). Remember not to use any water
4. Check the meter reading again. If the second reading is different to the first, you may have a leak

If the leak test confirms that you have a water leak, you will need to fix it. We recommend you use a registered plumber for any repairs. All leaks on your side of the meter are your responsibility.





Tip: Look for the blue water rating label when choosing new appliances. The red label that looks similar is the energy rating label.



## Choosing your new appliances well: Efficiency labelling scheme

When choosing a new appliance, it's important to consider how much water it will use. The more water efficient it is, the less you will spend on water and electricity bills.

The Ministry for the Environment's Water Efficiency Labelling Scheme makes it easy for you to tell how water efficient an appliance is. When you are in an appliance store, a water rating label should be displayed on or alongside the appliance.

The more stars, the more water efficient the appliance is!



The labelling scheme applies to six types of products:

- washing machines
- dishwashers
- toilets
- showers
- taps
- urinals

See <http://www.mfe.govt.nz/publications/wels-introduction> for more information.



## Saving water in the bathroom

Reducing the amount of water used in your bathroom can lead to high savings on your water and energy bills.

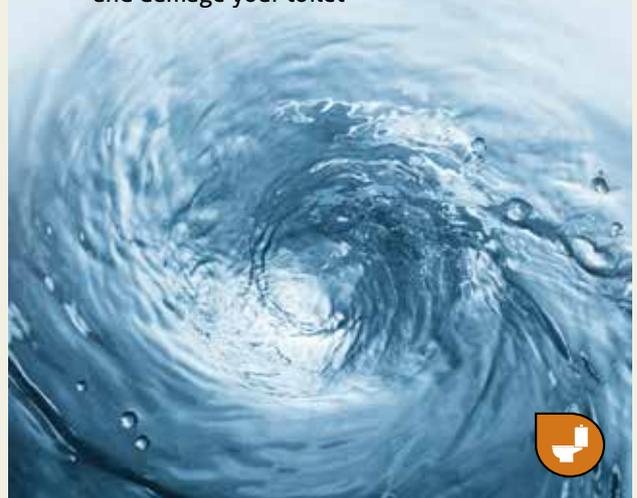
- Consider installing a shower head with a low-flow rate. Your local hardware or plumbing store will be able to advise you on shower heads with low-flow rates that match your shower fitting. Make sure you check its water rating label (see page 6)
- Install a simple, inexpensive tap aerator on your bathroom tap to reduce the flow rate by up to 50%. You can buy them from your local plumber or hardware store, or from environment trusts
- Turn off the water when brushing your teeth or shaving. You will use around one litre of water instead of five litres if you had left the tap running
- See if you can limit showers to four minutes or less. You can help your kids remember this by buying a shower timer
- Check that your hot water system thermostat is not set too high. Adding cold water to cool very hot water wastes water and energy. The recommended temperature setting is 60°C. Ask an electrician or plumber to adjust it if needed
- If you want a long relaxing soak, have a bath rather than a long shower
- Use a bucket to catch water while the shower warms up. You can pour this water on your garden afterwards



## Saving water in the toilet

Cutting down on water used for flushing means less money down the toilet!

- Check for leaks. Small drips leaking from your toilet cistern can result in thousands of litres wasted. Put a few drops of food colouring in the cistern. If colouring ends up in the toilet bowl without flushing, you have a leak. Have it repaired
- Do not use your toilet as a rubbish bin. You not only waste water but also risk causing a blockage in your plumbing
- If you need to replace your toilet, consider buying one with a dual flush. Make sure you check its water rating label (see page 6). The latest four-star toilets use as little as three litres for a half flush and 4.5 litres for a full flush. Most toilets in Auckland use around seven litres per flush and older toilets use around 12 litres per flush
- If you have a single-flush toilet you can make it more efficient by:
  - Installing a gizmo. A gizmo is a simple weight that hangs inside the cistern tube and stops the toilet from flushing when you take your finger off the button, so you control how long each flush lasts. You can get one from EcoMatters Environment Trust for a few dollars
  - Putting an object such as a water-filled, sealed, plastic milk bottle or jar inside the cistern. Be sure to place it in a way that does not hinder the proper functioning of your toilet. Don't use a brick! It may disintegrate and damage your toilet





## Saving water in the laundry

Up to a quarter of your household's water is used in the laundry. An inefficient washing machine can use 200 litres of water per wash. Replacing it is one of the biggest water savings you can make in your home.

- Front loading washing machines typically use about 50% less water, 35% less detergent and 30% less energy than equivalent-sized top loading washing machines, making them the most cost effective option. Make sure you check its water rating label (see page 6)
- Wash full loads whenever possible. This will save water and energy
- When washing clothes by hand, use a bucket instead of leaving the tap running. You could reuse this water on your garden straight after (avoid the vegetable patch as this water may contain microbes). Using a biodegradable detergent with low phosphorous, sodium and nitrogen will be better for your garden





*Tip: When washing greasy dishes by hand, use a bit of vinegar to cut grease. It's an effective cleaner, and it decreases rinsing time.*

## Saving water in the kitchen

### Washing dishes

- With modern dishwashers, there is no need to rinse your dishes first. If your dishes are not clean after going through the cycle, you may need to clean or repair your dishwasher
- When hand-washing dishes, fill the sink rather than rinsing and washing the dishes under a running tap
- By installing a simple, inexpensive tap aerator on your kitchen tap you can reduce the flow of water into your sink. You may like to consider a swivel tap aerator which has two flow settings and allows you to direct the water to where it is needed. Tap aerators are inexpensive and readily available from hardware and plumbing stores as well as from environment trusts
- When replacing your dishwasher, compare the water rating of different models (see page 6). Modern dishwashers use up to 60% less water than older models and are as efficient as hand washing. Dishwashers with five-star water ratings use as little as seven litres of water per wash

### Cooking

- Use a bowl to scrub vegetables in the kitchen sink. The water can then be poured on your plants
- Keep water in a covered jug in the fridge. It saves running the tap to get cold water
- Rather than running tap water over frozen food to thaw it, plan ahead and let it defrost in the fridge for a few hours. If you are in a hurry, the microwave is a more efficient option than running water
- Choose healthy ways of cooking that also use little water. Steaming or using a pressure cooker keeps more nutrients in the food and reduces your energy and water use
- Empty your water bottles onto your plants instead of in the sink
- If you have a sink waste disposal unit, be aware that it can increase your water consumption. Why not compost your food waste instead? The Kaipatiki Project provides free composting courses throughout Auckland, funded by Auckland Council. Auckland Council also offers a discount on composting systems





# Save water outdoors

Being waterwise outside means you can reduce the volume of high-quality drinking water used on lawns, plants and pavements.

Outdoor water use during summer puts a strain on water supplies when water resources are scarce. Peak summer use is what drives the need to find further water sources for Auckland. Water savings will benefit the environment, as well as saving you money. Below are tips on how you can conserve water and help your garden at the same time!

## Cleaning and car washing

- Use a broom to sweep your paths and driveway rather than a hose
- Use a bucket of soapy water to clean the car and the house windows. Only use the hose for a quick spray to finish
- When washing your car, the wash water contains dirt from tyres, fuel and road materials. This can be harmful to the environment if disposed of in the stormwater system. The ideal solution is to take your car to a carwash so all wash water is captured and treated. As this may not suit all, the next best method would be to wash your car on the lawn using minimal and eco-friendly detergent so that the water you use drains onto the lawn rather than into the stormwater system

## Factors influencing the need for water in the garden

The amount of water you will need to keep your garden going through summer depends on many factors, including:

- **Soil type:** Clay soils absorb water slowly but are prone to compaction. Sandy soils do not retain water well but are easier to work
- **Plant variety:** Some plants require a very high volume of water to stay healthy and looking good. Visit your local garden centre for more information on waterwise plants
- **Organic content of the soil:** The more compost and organic content in the soil, the better it will be at retaining moisture and the less watering it will need
- **Mulched versus naked soil:** A few centimetres of mulch on the soil increases water penetration, improves soil fertility and structure, reduces weed growth, and protects soil against evaporation and erosion
- **Drainage**
- **Slope, shade, wind, rainfall amount and frequency**





## Gardening choices

- Group plants with similar watering needs together as this helps to ensure they all receive the correct amount of water
- Place mulch around your plants to minimise the volume of water lost through evaporation. Wheat or pea-straw, bark or grass clippings can be used. Make sure you do not place mulch too close to your plants' stems as it can cause them to rot
- Weed your garden regularly. Weeds compete with plants for the available water
- Even at the height of summer, only water your garden once every three to five days that pass without rain. It is better to water deeply and infrequently rather than giving your garden a light sprinkle every day. By watering every day, you promote a weak and superficial root system that is prone to drying out
- Check to see if the soil is dry before watering your garden. It's easy to over-water!
- Water your plants in the early morning or evening to minimise the volume of water lost through evaporation
- Water the base of your plants rather than the leaves so that the water can reach the roots. An easy way to water your plants' roots is to use a drip irrigation system. It will reduce the volume of water lost through evaporation
- Reuse water where possible. Tip soapy water from the house or dirty water from your fish tank over your plants – but remember that some plants cannot deal with water softeners and harsh detergents, and avoid the vegetable patch
- Use a watering can or a hose with a hand-held trigger to minimise wastage and direct water only where it's needed. If you need to use a sprinkler, also use a timer. If your sprinkler is spraying water on the driveway or paths, turn it down or reposition it. Some sprinklers use as much water in an hour as a family of four uses in a day

## Growing and maintaining your lawn

- Grow your grass a little longer in the summer. It will stay greener than a close-mown lawn and needs less watering as it strengthens the root system and shades the root zone
- Some lawn grass mixtures can be allowed to dry out and go yellow in summer. They will recover in autumn. Avoid cutting them short before withholding water
- Look for a drought-resistant lawn seed mix when laying a new lawn such as perennial ryegrass, fescues and Kentucky bluegrass





*Remember: Even if you have a rainwater tank, you still need to be waterwise. You are likely to require at least some water from the public water supply, particularly over summer when rainfall is low.*

## Collecting rainwater

Auckland benefits from regular rainfall most of the year. You can use rainwater for:

- Watering your garden
- Washing your car
- Supplying your washing machine and toilet
- Topping up spas and swimming pools

Where a public water supply is available, rainwater is generally not advised for drinking-water connections such as in kitchens and bathrooms.

### Tank usage and size

Decide whether you would like to collect rainwater for outdoor use only or if you would like to plumb it to the house for non-drinking water use as this will decide the size of tank you will need.

- For outdoor use, you may only need a barrel or a small tank, which can be installed easily. You can learn how to do it from workshops organised by environment trusts. Simple barrels start at 200 litres
- For indoor use, you will need a bigger tank. You will need to think ahead about the plumbing, backflow prevention and consents application. This is more effort than for a barrel, but your reward will be higher water savings. Most domestic-use tanks are around 3,000 to 5,000 litres
- If you're aiming for self-sufficiency, your tank should be at least 20,000 to 25,000 litres

### Factors to consider

- Decide whether you need a pump and if so, what type of pump, how you will connect it to your electricity supply and what the additional energy use will be
- Consider where the tank will go. Select a position that will collect water from the largest possible roof area and is next to the downpipe. Make sure the tank won't restrict access to the garden or block views
- Consider the weight of the tank when full. For example, a tank should not be placed on top of a retaining wall
- Once a rainwater tank is installed, regular maintenance is recommended, including cleaning gutters, roof, tank inlets and filters, as well as pipework and periodic internal inspections

Several companies sell rainwater tanks in Auckland and will be able to advise you on the best tank for your needs.

The Eco Design Advisor team at Auckland Council is a great source of advice on the sustainability features of any building and renovation work you might be doing.

See [www.aucklandcouncil.govt.nz/ecodesign](http://www.aucklandcouncil.govt.nz/ecodesign)

### Legislation and consents

Depending on the size and the usage of your rainwater tank, you may need to apply for consents.

- **Raintanks for outdoor water use only:** No consent is required for raintanks that are used for outdoor water use only, provided they meet the guidelines for size and for support above ground
- **Raintanks for indoor water use:** You will need a building consent if you decide to plumb the tank into your house. This will incur a fee, which will vary according to the complexity of the proposed installation. If the work is carried out by a certified plumber, you can apply for an exemption
- **Raintanks exceeding 6,000 litres:** Tanks larger than 6,000 litres may require a resource consent

For more information on the consenting process, please check with the duty planner at Auckland Council on (09) 301 0101.

## Recycling greywater

Greywater is the wastewater from the bath, the shower, the bathroom sink and the washing machine. Reusing greywater can significantly reduce the amount of fresh water that you use.

In Auckland, a greywater recycling system can be plumbed to reuse water for flushing the toilet. This requires a small tank storing greywater for a short time and treating it slightly with chlorine to avoid build-up of harmful bacteria. There should also be a public water supply to the toilet to provide back-up if the tank is dry, as well as a discharge from the tank to the sewer pipe.

Greywater tanks in Auckland require a building consent. These systems are still rare in New Zealand and as a result you should expect questions on the safety of your project. Talk to the Eco Design Advisor team at Auckland Council before starting to design your system to ensure you have everything covered off.